

Marked-up Set of Claims (According to 37 CFR 1.173(b)(2))

1. (Four times amended) A method for dewatering thermophilic biological sludge[that has been digested by a thermophilic digestion process], comprising:

a. adding [polymeric quaternary ammonium compounds, aluminum sulfate, ferric chloride and blends thereof as] a primary component[,] to the thermophilic biological sludge; _____

_____ said primary component comprising at least one of aluminum sulfate and ferric chloride; wherein _____

_____ said primary component may also comprise a polymeric quaternary ammonium compound; and

b. adding a cationic or anionic polyacrylamide to the thermophilic biological sludge[; such that any combinations of the primary component and of the polyacrylamides enhance dewatering of the sludge].

2. (Six times amended) The method for dewatering thermophilic biological sludge according to claim 1, wherein [the] said polymeric quaternary ammonium compound[s are from] is poly(di-allyl di-methyl ammonium chloride (DADMAC))[family].

3. (Six times amended) The method for dewatering thermophilic biological sludge according to claim 1, wherein [the] said polymeric quaternary ammonium compound[s are from] is poly(epichlorohydrin di-methyl amine (epi-DMA))[family].

4. (Four times amended) The method for dewatering thermophilic biological sludge according to claim 1, wherein [the polymeric quaternary ammonium compound, aluminum sulfate, ferric chloride and blends thereof are] said primary component is added directly to [the] said thermophilic biological sludge and, upon formation of microflocs [of the sludge]from [the polymeric quaternary ammonium compound, aluminum sulfate, ferric chloride and blends thereof] said primary component, said cationic polyacrylamide is added[to form a floc that dewateres the sludge].

5. (Four times amended) The method for dewatering thermophilic biological sludge according to claim 1, wherein the ratio[s] of [the]said polymeric quaternary ammonium compound[s] with respect to aluminum sulfate range from about 1:16 to about 1:2, by weight.

6. (Four times amended) The method for dewatering thermophilic biological sludge according to claim 1, wherein the ratio[s] of [the]said polymeric quaternary ammonium compound[s] with respect to ferric chloride range from about 1:8 to about 1:10, by weight.

7. (Four times amended) The method for dewatering thermophilic biological sludge according to claim 1, wherein the ratio[s] of [the]said polyacrylamide with respect to aluminum sulfate range from about 1:80 to about 1:8, by weight.

8. (Four times amended) The method for dewatering thermophilic biological sludge according to claim 1, wherein the ratio[s] of [the]said polyacrylamide with respect to ferric chloride range from about 1:70 to about 1:7, by weight.

9. (Three times amended) The method for dewatering thermophilic biological sludge according to claim 1, wherein the polymer concentration to solids ratio of total polymer dosage requirement in relationship to percentage of solids component of [the]said thermophilic biological sludge is between about 50 ppm:1 percent and about 300 ppm:1 percent.

10. (Three times amended) The method for dewatering thermophilic biological sludge according to claim 1, wherein [the polymeric quaternary ammonium compound, aluminum sulfate, ferric chloride and blends thereof, are]said primary component is added directly to [the]said thermophilic biological sludge in an amount sufficient to cause formation of a cationic overcharge within a developed micro floc system, [and an]then said anionic polyacrylamide is added[for final floc formation].

11. (Four times amended) The method for dewatering thermophilic biological sludge according to claim 10, wherein [the polymeric quaternary ammonium compound]said primary component and [the]said anionic polyacrylamide are in an approximate[ly] 1:8 to 20:1 ratio by

weight[with the anionic polyacrylamide having a higher molecular weight than the polymeric quaternary ammonium compound does].

12. (Twice amended) The method for dewatering thermophilic biological sludge according to claim 10, wherein the polymer concentration to solids ratio of total polymer dosage requirement in relationship to percentage of solids component of [the]said thermophilic biological sludge is between approximately 50 ppm:1 percent and approximately 5000 ppm:1 percent.

13. (Three times amended) The method for dewatering thermophilic biological sludge according to claim 1, wherein [the]said thermophilic biological sludge is mixed with primary sludge.

14. Canceled

15. (Four times amended) The method for dewatering thermophilic biological sludge according to claim 1, wherein [the polymeric quaternary ammonium compounds, aluminum sulfate, ferric chloride and blends thereof, as well as the]said primary component and said polyacrylamide is [used]added in solution[, in emulsion or in dry] form.

16. (Amended) A sludge composition, comprising:

water;

solids comprising thermophiles;

aluminum sulfate; and

a cationic or an anionic polyacrylamide.

17. (Amended) A sludge composition, comprising:

water;

solids comprising thermophiles;

ferric chloride; and

a cationic or an anionic polyacrylamide.

18. (Amended) A sludge composition, comprising:
water;
solids comprising thermophiles;
aluminum sulfate and ferric chloride; and
a cationic or an anionic polyacrylamide.
19. (Twice Amended) The sludge of claim 16, 17 or 18, further comprising a polymeric quaternary ammonium compound.
20. (Three Times Amended) The sludge of claim 19, wherein said polymeric quaternary ammonium compound is poly(DADMAC) and/or poly(epi-DMA).
- 21 – 38. (Canceled)
39. The sludge of claim 16, 17 or 18, further comprising primary sludge.